

ABSTRACT OF THE DISCLOSURE

The invention provides methods and compositions for promoting neural cell growth and/or regeneration. The general methods involve contacting with an activator of a cyclic nucleotide dependent protein kinase a neural cell subject to growth repulsion mediated by a neural cell growth repulsion factor. The activator may comprise a direct or an indirect activator of the protein kinase; the repulsion factor typically comprises one or more natural, endogenous proteins mediating localized repulsion or inhibition of neural cell growth; and the target cells are generally vertebrate neurons, typically injured mammalian neurons. The subject compositions include mixtures comprising a neural cell, an activator of a cyclic nucleotide dependent protein kinase and a neural cell growth repulsion factor.